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EXAMINER	
CELSA, BENNETT M	

ART UNIT	PAPER NUMBER
1639	

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
10/057,940	PANTOLIANO ET AL.	
Examiner	**Art Unit**	
Bennett Celsa	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *16 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-70* is/are pending in the application.

4a) Of the above claim(s) *33-35 and 48-70* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31,32 and 36-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/02;10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

Claims 31-70 are currently pending.

Claims 33-35 and 48-70 are withdrawn from consideration.

Claims 31, 32 and 36-47 are under consideration.

Election/Restrictions

1. Applicant's election without traverse of Group I (Claims 31, 32 and 36-47: method of determining biological function) in the reply filed on July 16, 2004 is acknowledged.

2. Claims 33-35 and 48-70 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

3. Applicant's election with traverse of factor Xa as the species of "target protein" in the reply filed on 10/22/04 is acknowledged. The traversal is on the ground(s) that it is admitted that "the identity of a particular target species lends no patentable distinctness to the claimed invention because the substitution of one target for another target in the recited methods is considered an obvious variation". This argument is found persuasive, and the election of species is hereby withdrawn.

The requirement, as modified (dropping election of species) is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (LACK OF WRITTEN DESCRIPTION).

The presently claimed invention (e.g. claim 31) is drawn to: A method for determining at least one previously unidentified "biological function" of a "target protein" comprising:

(a). screening a multiplicity of different molecules for their ability to "modify the stability of a target protein", wherein "modification of the stability of said target protein by by a molecule indicates that the molecule binds to said target protein";

(b) generating from step (a), a first list of molecules that modify the stability of said target protein;

(c) comparing said first list from step (b) to "at least one second list of molecules", wherein said second list of molecules are known to modify the stability of a group of proteins which share biological function; and

(d) determining if any molecule in said first list from step (b) is included in said second list from step (c), thereby determining at least one previously unidentified biological function of said target protein.

As defined by the specification, the term "modification of stability" refers to the change in the amount of pressure, the amount of heat, the concentration of detergent, or the concentration of denaturant that is required to **cause the same degree of *physical change* in the target protein in the absence of any ligand** ... can be indicated by an increase or decrease in stability ... and indicates that the one or more ligand binds to the protein.

Although encompassing any "physical change of the target protein"; the only assay of "physical change" described in the specification is the "shift in the thermal unfolding curve" defined (by the specification) as "a shift in the thermal unfolding curve for a protein that is bound to a ligand, relative to the thermal unfolding curve of the protein in the absence of ligand".

As defined in the specification, the term "function" refers to the biological function of a protein (or peptide) ... for example, a kinase is a protein for which the function is catalyzing the covalent addition of a phosphate group to another protein.

The term "biological" is "of or relating to biology" which is "The science of living organisms and life processes including the study of structure, functioning, growth, origin, evolution, and distribution of living organisms" See Websters's II New Riverside

Dictionary (Riverside Publishing Col. 1994) page 174 defintions: "biological" and "biology".

It is first noted that written description is legally distinct from enablement: "Although the two concepts of are entwined, they are distinct and each is evaluated under separate legal criteria. The written description requirement, a question of fact, ensures the that the inventor conveys to others that he or she had possession of the claimed invention; whereas, the enablement requirement, a question of law, ensures that the inventor conveys to others how to make and use the claimed invention." See 1242 OG 169 (January 30, 2001) citing *University of California v. Eli Lilly & Co* With regard to the description requirement. The Court of Appeals for the Federal Circuit held that a "written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as by structure, formula [or] chemical name,' of the claimed subject matter sufficient to distinguish it from other materials." *University of California v. Eli Lilly and Co.,* 43 USPQ2d 1398, 1405 (1997), quoting *Fiers v. Revel,* 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) (bracketed material in original)[The claims at issue in *University of California v. Eli Lilly* defined the invention by function of the claimed DNA (encoding insulin)]. In this regard, applicant is further referred to "Guidelines for Examination of Patent Applications Under the 35 USC 112, first paragraph, 'Written Description' Requirement" published in 1242 OG 168-178 (January 30, 2001); *Enzo Biochem. Inc.v. Gen-Probe Inc.*, Case No. 01-1230 (Fed. Cir. July 15, 2002) ("EnzoII"); and Univ. Of Rochester v G. D. Searle and Co. 249 F. Supp. 2d 216 (W.D.N.Y. 2003) affirmed by the CAFC on February 13, 2004 (03-1304) 69 USPQ2d 1886. .

Accordingly, the specification showing of a single assay for measuring changes in the "thermal stability" (e.g. as the "physical change of the target protein") utilizing a single assay of "physical change" (e.g. the "shift in the thermal unfolding curve") does not provide adequate written description for identifying any target protein "biological function" and/or possession of any assay for determining any type of "physical change" of a target protein commensurate in scope to the claimed invention.

Claim 31 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for pharmaceutical compositions comprising amino acid residues 177-191 hGH (or mammalian sequences corresponding thereto) to treat obesity in a mammal, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with the present claims.

There are many factors to consider when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any experimentation is "undue". These factors include, but are not limited to:

a. The breadth of the claims.
b. The nature of the invention
c. The state of the prior art;
d. The level of one of ordinary skill
e. The level of predictability in the art;
f. The amount of direction provided by the inventor;
g. The presence or absence of working examples;
h. The quantity of experimentation necessary needed to make or use the invention based on the disclosure;

See :*In re Wands* USPQ 2d 1400 (CAFC 1988):

(1-2) ***The breadth of the claims and the nature of the invention*:**

The presently claimed invention (e.g. claim 31) is drawn to: A method for determining at least one previously unidentified "biological function" of a "target protein" comprising:

(a). screening a multiplicity of different molecules for their ability to "modify the stability of a target protein", wherein "modification of the stability of said target protein by by a molecule indicates that the molecule binds to said target protein";

(b) generating from step (a), a first list of molecules that modify the stability of said target protein;

(c) comparing said first list from step (b) to "at least one second list of molecules", wherein said second list of molecules are known to modify the stability of a group of proteins which share biological function; and

(d) determining if any molecule in said first list from step (b) is included in said second list from step (c), thereby determining at least one previously unidentified biological function of said target protein.

As defined by the specification, the term "modification of stability" refers to the change in the amount of pressure, the amount of heat, the concentration of detergent, or the concentration of denaturant that is required to **cause the same degree of *physical change* in the target protein in the absence of any ligand** ... can be indicated by an increase or decrease in stability ... and indicates that the one or more ligand binds to the protein.

Although encompassing any "physical change of the target protein"; the only assay of "physical change" described in the specification is the "shift in the thermal unfolding curve" defined (by the specification) as "a shift in the thermal unfolding curve for a protein that is bound to a ligand, relative to the thermal unfolding curve of the protein in the absence of ligand".

As defined in the specification, the term "function" refers to the biological function of a protein (or peptide) ... for example, a kinase is a protein for which the function is catalyzing the covalent addition of a phosphate group to another protein.

The term "biological" is "of or relating to biology" which is "The science of living organisms and life processes including the study of structure, functioning, growth, origin, evolution, and distribution of living organisms" See Websters's II New Riverside Dictionary (Riverside Publishing Col. 1994) page 174 defintions: "biological" and "biology".

(3 and 5) ***The state of the prior art and the level of predictability in the art:***

There is no predictability and/or commensurate correlation between the myriad of "target protein biological functions" and ligand binding e.g. the ability to modify or change thermal as well as non-thermal physical attributes of a target protein taken alone or when bound to ligand.

(4) ***The level of one of ordinary skill in the art:***

The level of skill would be high, most likely at the Ph.D. level.

(6-7) ***The amount of direction provided by the inventor and the existence of working examples.***

Although the present method encompasses the identification of any type of "biological function of a target protein" and any "physical change of the target protein"; the only assay of "physical change" described in the specification is the "shift in the thermal unfolding curve" defined (by the specification) as "a shift in the thermal unfolding curve for a protein that is bound to a ligand, relative to the thermal unfolding curve of the protein in the absence of ligand".

(8) ***The quantity of experimentation needed to make or use the invention based on the content of the disclosure:***

Due to the unpredictability of target/ligand binding and correlation to the modification of target physical attributes; the scope of the presently claimed invention; and the difficulty in extrapolating bilogical functions to physical (thermal/non-thermal) and/or binding properties; the presently claimed invention is not enabled for its present scope. The specification has failed to provide adequate guidance to enable the skilled artisan to reliably extrapolate bioactivity with physical properties including a representative sample of different assays necessary to correlate the scope of different "biological functions" and/or change of physical target assays (when bound/unbound to ligand) . Absent this commensurate showing, finding other peptide species with the desired efficacy would represent undue experimentation.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 31 is rejected under 35 U.S.C. 102(a,b,e) as being anticipated by Francoeur, US Pat. No. 4,880,750 (11/89).

The presently claimed invention (e.g. claim 31) is drawn to: A method for determining at least one previously unidentified "biological function" of a "target protein" comprising:

(a). screening a multiplicity of different molecules for their ability to "modify the stability of a target protein", wherein "modification of the stability of said target protein by by a molecule indicates that the molecule binds to said target protein";

(b) generating from step (a), a first list of molecules that modify the stability of said target protein;

(c) comparing said first list from step (b) to "at least one second list of molecules", wherein said second list of molecules are known to modify the stability of a group of proteins which share biological function; and

(d) determining if any molecule in said first list from step (b) is included in said second list from step (c), thereby determining at least one previously unidentified biological function of said target protein.

As defined by the specification, the term "modification of stability" refers to the change in the amount of pressure, the amount of heat, the concentration of detergent, or the concentration of denaturant that is required to **cause the same**

degree of *physical change* in the target protein in the absence of any ligand ... can be indicated by an increase or decrease in stability ... and indicates that the one or more ligand binds to the protein.

Although encompassing any "physical change of the target protein"; the only assay of "physical change" described in the specification is the "shift in the thermal unfolding curve" defined (by the specification) as "a shift in the thermal unfolding curve for a protein that is bound to a ligand, relative to the thermal unfolding curve of the protein in the absence of ligand".

As defined in the specification, the term "function" refers to the biological function of a protein (or peptide) ... for example, a kinase is a protein for which the function is catalyzing the covalent addition of a phosphate group to another protein.

The term "biological" is "of or relating to biology" which is "The science of living organisms and life processes including the study of structure, functioning, growth, origin, evolution, and distribution of living organisms" See Websters's II New Riverside Dictionary (Riverside Publishing Col. 1994) page 174 defintions: "biological" and "biology".

Francoeur teaches determining at least one previously unidentified "biological function of a target protein (e.g. target antigen(s) and ability to bind or not bind an antibody (ies)) comprising:

a. screening a multiplicity of different molecules (e.g. individual specific antibodies) for their ability to "modify the stability of a target protein (e.g. array of antigens which bind and physically form an "immune complex" or not bind and not form such a complex);

b. generating a list of molecules (e.g. individual specific antibodies) that modify the stability (e.g. bind antigen and form an immune complex) generating a unique fingerprint representing a list of binding IS antibodies ;

c. comparing the unique fingerprint (or list of binding IS antibodies) to "at least one second list of molecules" (e.g a "known pattern of immune complexes") which bind (and complex) with known antigens e.g. share biological antibody/anteing "biological function"

d. seeing if there is inclusion of (E.g. a fingerprint match) IS antibody/antigen binding from first list as compared to one or more second (e.g. reference lists).

8. Claims 31, 32 and 36-45 and 47 are rejected under 35 U.S.C. 102(a,b,e) as being anticipated by Morton et al. Biochem. Vol. 34, No. 27 (1995) pages 8564-8575.

The presently claimed invention (e.g. claim 31) is drawn to: A method for determining at least one previously unidentified "biological function" of a "target protein" comprising:

(a). screening a multiplicity of different molecules for their ability to "modify the stability of a target protein", wherein "modification of the stability of said target protein by by a molecule indicates that the molecule binds to said target protein";

(b) generating from step (a), a first list of molecules that modify the stability of said target protein;

(c) comparing said first list from step (b) to "at least one second list of molecules", wherein said second list of molecules are known to modify the stability of a group of proteins which share biological function; and

(d) determining if any molecule in said first list from step (b) is included in said second list from step (c), thereby determining at least one previously unidentified biological function of said target protein.

As defined by the specification, the term "modification of stability" refers to the change in the amount of pressure, the amount of heat, the concentration of detergent, or the concentration of denaturant that is required to **cause the same degree of *physical change* in the target protein in the absence of any ligand** ... can be indicated by an increase or decrease in stability ... and indicates that the one or more ligand binds to the protein.

Although encompassing any "physical change of the target protein"; the only assay of "physical change" described in the specification is the "shift in the thermal unfolding curve" defined (by the specification) as "a shift in the thermal unfolding curve for a protein that is bound to a ligand, relative to the thermal unfolding curve of the protein in the absence of ligand".

As defined in the specification, the term "function" refers to the biological function of a protein (or peptide) ... for example, a kinase is a protein for which the function is catalyzing the covalent addition of a phosphate group to another protein.

The term "biological" is "of or relating to biology" which is "The science of living organisms and life processes including the study of structure, functioning, growth, origin, evolution, and distribution of living organisms" See Websters's II New Riverside Dictionary (Riverside Publishing Col. 1994) page 174 defintions: "biological" and "biology".

Morton et al. Teach in their table 1 the following:

(a) use of circular dichroism to estimate the value of Tm for a target protein alone (wherein the generation of a thermal unfolding curve is inherent to this method-see Morton et al.'s figure 1-furthermore a protein unfolding curve is an activity spectrum),

(b) use of circular dichroism (at a given light absorbance) to measure shifts in Tm when the target protein is contacted with one or more test ligands,

(c) generating an activity spectrum by ranking molecules that bind the target vs. those that do not, and by listing variations in Tm as a function of ligand variation, and by constructing thermal unfolding curves,

(d) comparing Tm of test ligand-target protein pairs to target protein alone (e.g. comparing the activity spectrums of bound pairs vs. target protein alone), and

(e) biologically functionally classifying the target protein as being able to bind with the test ligands- or not; or any other; or any other type of classification taught by the

reference which results from the "binding reactions" of protein and ligand e.g. see Fig. 6..

Furthermore, Morton et al's table 1 discloses that the screening method was a "thermal upshift assay". Inherent to such an assay are the following steps (evidence of this inherency can be found in Morton et al's table 1, figure 1, and experimental procedures):

(a) contacting a target protein with a multiplicity of test ligands, each contact occurring in discreet vessels,

(b) heating the containers over a range of temperatures,

(c) measuring a physical change in the binding pairs as a result of thermal unfolding due to heating,

(d) generating a thermal unfolding curve,

(e) comparing the thermal unfolding curves of the test combinations with that derived from melting of the target protein alone (via comparisons of Tm values), and

(f) determining if any of the test ligands shift the thermal unfolding curve of the target protein. This is also disclosed in Morton et al.'s figure 1.

It is again noted that the specification definition of "modification of the stability of a target protein" and "determininig .... Biological function of a target protein" is broad enough to encompass the classification of the target protein to bind or not bind with the test ligands and/or any other type of "biologic" classification taught by the reference which results from the "binding reactions" of protein and ligand e.g. see Fig. 6. .

It is noted that the Morton reference clearly (d) generates an activity spectrum by by ranking molecules that bind the target vs. those that do not, and by listing variations in Tm as a function of ligand, and by constructing thermal unfolding curves; as pointed out in the rejection above.

The Morton reference further teaches comparing Tm of test ligand-target protein pairs to target protein alone (e.g. comparing the activity spectrums of bound pairs vs. target protein alone) which clearly falls within the scope of the definition of "functional reference spectrum lists" since:

1. a known protein temperature/circular dichroism and resulting Tm (e.g. Fig. 1 of reference) meets the ALTERNATIVE definition of "functional reference spectrum list" on page 12, lines 18-22 e.g. "a set of **ONE** or more activity spectra for **one** or more known proteins" (emphasis provided); and/ or

2. the list of "associated ligands" AND "binding constants" which "can be used to "functionally biologically classify a protein" is clearly demonstrated in figures 1-4 and Table 1 of the reference which are within the specification definition of "functional reference spectrum lists" found on page 12 of the specification.

Further, the Morton reference on page 8565 explains in detail how the presence of ligand with a target protein in a thermal assay (e.g. thermal upshift assay) is used to determine shift in melting temperature (vs. a control) which reflects a modification of biological protein stability (e.g. folding) which is indicative of protein ligand binding. IN this regard, Fig. 1 and Table 1 clearly demonstrate "activity spectrum" since they disclose a LIST of various non-ligands and ligands of varying affinity to a target protein

e.g. they disclose an "activity spectrum" or binding profile of different ligands within the scope of the above definition.

9. Claims 31, 32 and 36-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pantoliano et al. US Pat. No. 6,020,141 (2/2000: filed 5/96) and Kauvar WO 95/18969 (7/95) .

Pantoliano et al. teach rank the affinity of a multiplicity of different molecules for target molecules (e.g proteins) using a thermal shift assay (including determining the midpoint temperature Tm) using simultaneous thermal denaturing and the generation of a thermal unfolding curve. (E.g. see abstract). Fluorescence screening with tryptophan excitation is also taught. Eg. See Pantoliano at col. 12, lines 30-50; col. 13-14; col. 16-20; col. 22-24. See also patent claims. Accordingly the Pantoliano reference method provides a means of determining binding profiles for different proteins (e.g. fingerprints).

The Pantoliano et al. reference differs to the extent that "determining .... Unidentified biological function of a target protein" refers to classifying target proteins with the view of hypothesizing a specific protein function by class (e.g. labeling the protein as a transcriptase, enzyme etc.); and although the Pantoliano reference method teaches making ligand/target protein binding panels Pantoliano fails to further utilize such panels as references for determining protein biological classification. .

However, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the Pantoliano et al. method to further include the step

of using his results to functionally/biologically classify proteins (e.g. as a transcriptase, enzyme etc.) when Pantoliano et al. is taken in view of Kauvar et al.

Kauvar et al. disclose assays (e.g. see page 2, line 35- page 5, lines 19) for target protein characterization (e.g. see claims 8, 9, 23 and Figures) . More specifically, (e.g. see page 4, line 28-page 5, line 3) Kauver et al. demonstrate how individual proteins or panel of proteins (all with known functions or fingerprints- e.g. activity spectra) can be used to functionally biologically classify test compounds, including the protein itself. Kauvar suggests that this can be done by observing that if the test protein binds to a certain class of known proteins, one can assume that the test protein must have analogous function to the known ones (e.g. see especially Kauvar at bottom of page 4 to top of page 5; see also Kauvar claims.

One would have been motivated to combine the Pantoliano et al and Kauvar reference teaching to arrive at the presently claimed method of protein characterization since both references address the same technical problem (e.g using assays to classify proteins) and further because the Kauvar et al. reference specifically suggest the use of ligand binding protein panels, such as those arrived at by the Pantoliano method, for their beneficial use for both ligand and protein classification.

Future Correspondences

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bennett Celsa whose telephone number is 571-272-0807. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bennett Celsa
Primary Examiner
Art Unit 1639

BC
March 7, 2005